

Rec'd PCT/PTO 23 DEC 2004

PCT/FR2003/001814

PATENT COOPERATION TREATY



PCT

## INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

|   |   |  |
|---|---|--|
| Applicant's or agent's file reference<br>SGF263/80  | <b>FOR FURTHER ACTION</b> See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416) |  |
| International application No.<br>PCT/FR2003/001814  | International filing date (day/month/year)<br>16 juin 2003 (16.06.2003)   | Priority date (day/month/year)<br>04 juillet 2002 (04.07.2002) |
| International Patent Classification (IPC) or national classification and IPC<br>C09D 5/44, C25D 13/04 |   |  |
| Applicant<br>COMMISSARIAT A L'ENERGIE ATOMIQUE  |   |  |

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.
2. This REPORT consists of a total of 5 sheets, including this cover sheet.
 

This report is also accompanied by ANNEXES, i.e., sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

These annexes consist of a total of \_\_\_\_\_ sheets.
3. This report contains indications relating to the following items:
  - I  Basis of the report
  - II  Priority
  - III  Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
  - IV  Lack of unity of invention
  - V  Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
  - VI  Certain documents cited
  - VII  Certain defects in the international application
  - VIII  Certain observations on the international application

|  |  |
|--|--|
| Date of submission of the demand<br>27 janvier 2004 (27.01.2004) | Date of completion of this report<br>22 November 2004 (22.11.2004) |
| Name and mailing address of the IPEA/EP<br><br>Facsimile No.     | Authorized officer<br><br>Telephone No.                            |

## INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.

PCT/FR2003/001814

## I. Basis of the report

## 1. With regard to the elements of the international application:\*

 the international application as originally filed the description:

pages \_\_\_\_\_ 1-39 \_\_\_\_\_, as originally filed

pages \_\_\_\_\_ , filed with the demand

pages \_\_\_\_\_ , filed with the letter of \_\_\_\_\_

 the claims:

pages \_\_\_\_\_ 1-21 \_\_\_\_\_, as originally filed

pages \_\_\_\_\_ , as amended (together with any statement under Article 19

pages \_\_\_\_\_ , filed with the demand

pages \_\_\_\_\_ , filed with the letter of \_\_\_\_\_

 the drawings:

pages \_\_\_\_\_ 1/8-8/8 \_\_\_\_\_, as originally filed

pages \_\_\_\_\_ , filed with the demand

pages \_\_\_\_\_ , filed with the letter of \_\_\_\_\_

 the sequence listing part of the description:

pages \_\_\_\_\_ , as originally filed

pages \_\_\_\_\_ , filed with the demand

pages \_\_\_\_\_ , filed with the letter of \_\_\_\_\_

2. With regard to the language, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.  
These elements were available or furnished to this Authority in the following language \_\_\_\_\_ which is:

 the language of a translation furnished for the purposes of international search (under Rule 23.1(b)). the language of publication of the international application (under Rule 48.3(b)). the language of the translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any nucleotide and/or amino acid sequence disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

 contained in the international application in written form. filed together with the international application in computer readable form. furnished subsequently to this Authority in written form. furnished subsequently to this Authority in computer readable form. The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished. The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4.  The amendments have resulted in the cancellation of:

 the description, pages \_\_\_\_\_ the claims, Nos. \_\_\_\_\_ the drawings, sheets/fig \_\_\_\_\_

5.  This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).\*\*

\* Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rule 70.16 and 70.17).

\*\* Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.

## INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.  
PCT/FR 03/01814**V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

## 1. Statement

|                               |        |      |     |
|-------------------------------|--------|------|-----|
| Novelty (N)                   | Claims | 1-21 | YES |
|                               | Claims |      | NO  |
| Inventive step (IS)           | Claims | 1-21 | YES |
|                               | Claims |      | NO  |
| Industrial applicability (IA) | Claims | 1-21 | YES |
|                               | Claims |      | NO  |

## 2. Citations and explanations

Reference is made to the following document:

D1: EP 0 038 244 A.

Document D1, which is considered to be the prior art closest to the subject matter of claim 1, describes (the references between parentheses apply to said document) a method for depositing organic thin films on electrically conductive (metal) surfaces by electropolymerisation. The monomers used comprise a vinyl terminal bond conjugated with an electro-attractive functional grouping, for example, acrylonitrile or acrolein (cf. page 5, lines 5-11).

It follows that the subject matter of claim 1 differs from this known electrografted substrate in that the proportion of functional groupings available to form a chemical or other bond with a complementary grouping within the electrografted film is significantly less than 90% of the total number of organic functional groupings.

As a result, the subject matter of claim 1 is novel (PCT Article 33(2)).

The problem that the present invention is intended to solve can therefore be considered to be that of providing (semi) conductive surfaces functionalised by organic films with a wide variety of functional groupings of which as many as possible are available per unit area.

The solution to this problem, as proposed in claim 1 of the present application, is considered to involve an inventive step (PCT Article 33(3)), for the following reasons:

The aim in D1 was to deposit, on metal surfaces, uniform organic thin films that adhere well thereto. A person skilled in the art faced with the aforementioned problem could not, therefore, have found any indication in D1 that would have led to the claimed solution.

Claims 2-8 are dependent on claim 1 and therefore also fulfil, as such, the PCT requirements of novelty and inventive step.

The subject matter of claim 9 relates to a method for preparing a functionalised substrate as defined in claim 1 and is, as a result, also novel and inventive.

Claims 10-16 are dependent on claim 9 and therefore also fulfil, as such, the PCT requirements of novelty and inventive step.

Claims 17-21 relate to certain specific uses of the solid substrate defined in claim 1 and also fulfil the aforementioned requirements.